From: Jed Brown

Subject: White House RFI on public access

Date: January 1, 2012 8:25:43 PM EST

I am a postdoctoral fellow in the Mathematics and Computer Science Division at Argonne National Laboratory.

I believe that it is crucial for the results of all publicly funded research be made freely available to the public as quickly as possible. Relatively informal venues such as the websites of authors and the arXiv are currently used for this purpose. At a bare minimum, I would like to see stronger protections put in place so that publishers cannot bar authors from providing their papers in this way. If at all possible, I would like to see the NIH Public Access Policy extended to all publicly funded research.

A fundamental aspect of the scientific method is that research must be reproducible. As such, papers should include sufficient detail for a third party to reproduce the results of the paper. This may go in supplementary material and (especially in my field of computational science) should frequently include source code. I would like to see explicit support for archival of supplementary material necessary for reproducible research.

More than 90% of my work goes into open source software packages that are freely distributed. For each of my papers, I attempt to have a repository that includes detailed instructions for reproducing the results using an appropriate version of the software package as well as scripts for creating the figures and tables and ultimately compiling the document. This is more work for me as an author, but I feel it is a matter of professionalism and respect for the scientific process. I feel it would be excessive at this time to require that all researchers use this process, but I think it should be strongly encouraged. Some tools (e.g. http://www.vistrails.org and http://www.reproducibility.org/) can make this process easier.

For more on the topic of reproducible research, I recommend this recent paper. http://www.stanford.edu/~vcs/papers/SMPRCS2010.pdf